Work Order ID 107870 *107870*

October-04-13 1:23:09 PM

Item ID:	D6004-115		**Accept**	*N900040100*	**Setup** **Start** *NS1*
Revision ID:					**Stop** *NS2*
Item Name:	Crosstube Material		36		
Start Date:	10/04/13	**Start Qty:** 30.00	~~*30*~~	**Cust Item ID:**	
Required Date:	12/15/14	**Req'd Qty:** 30.00	*30*	**Customer:**	
Reference:					

Approvals: **Process Plan:** MLS **Date:** 13-10-04 **Tooling:** ______ **Date:** ______

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Run **Start** *NR1* **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp

Draw Nbr	Revision Nbr
D6004	Rev A

100 *100* Purchasing Purchasing	PURCHASING	0.00 / 0.00	CL 13/10/10	36	

Memo

Issue P/O 21670

a) Extrude as per Dwg D6004
b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9or QQ-A-200/11) seamless aluminum tube
c)Minimum ultimate tensile strength = 77 ksi
d)Minimum tensile yield strenght=66 ksi

e)Material certification is required

EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.

MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ____________________

Part No. ____________________

NCR No. ____________________

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ____
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	____________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	____________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	____________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Work Order ID 107870 *107870*

October-04-13 1:23:09 PM

Item ID: D6004-115 **Accept** *N900040100* **Setup** **Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Crosstube Material

Start Date: 10/04/13 **Start Qty:** 30.00 *30* **Cust Item ID:**

Required Date: 12/15/14 **Req'd Qty:** 30.00 *30* **Customer:**

Reference:

Approvals: **Process Plan:** ______ **Date:** ______ **Tooling:** ______ **Date:** ______ **Run** **Start** *NR1*

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______ **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110 *110* Packaging Packaging	Receive & Inspect for Damage & Mat'l Certs **Memo** Ensure material certification is attached	0.00 0.00			33X	8	14-12-15		
120 *120* QC Quality Control	QC6- Inspect dimensions to drawing **Memo** Ensure Material certification comply to Dwg D6004	0.00 0.00				(33)	15-03-19		DAS 9 9-89
130 *130* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 **Memo**	0.00 0.00 DAS 9 9-89							

DQA: ________ Date: ________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ________	DISPOSITION	AGAINST DEPARTMENT/PROCESS
Part No. ________	Rework ☐	Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
NCR No. ________	Scrap ☐	Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
	Use-as-is ☐	Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
	Work Order Update ☐	Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Work Order ID 107870

October-04-13 1:23:09 PM

107870

Item ID: D6004-115

Revision ID:

Item Name: Crosstube Material

Accept *N900040100*

Setup Start *NS1*

Stop *NS2*

Start Date: 10/04/13 **Start Qty:** 30.00 *30*

Required Date: 12/15/14 **Req'd Qty:** 30.00 *30*

Cust Item ID:

Customer:

Reference:

Approvals: **Process Plan:** ________ **Date:** ________ **Tooling:** ________ **Date:** ________

QC: ________ **Date:** ________ **SPC (Y/N):** ________ **Date:** ________

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* Packaging Packaging	Identify as per dwg & Stock Location: L/6 Memo	0.00 0.00				33	Ø		mmc 15/03/21
150 *150* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00				MLJ 15-03-23			MF 15-3-23

DQA: ________ Date: ________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ________ Part No. ________ NCR No. ________	**DISPOSITION** Rework ☐ Scrap ☐ Use-as-is ☐ Work Order Update ☐	**AGAINST DEPARTMENT/PROCESS** Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ________
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print

October-04-13 1:23:12 PM

Work Order ID: 107870   *107870*

Parent Item: D6004-115   *D6004-115*

Parent Item Name: Crosstube Material

Start Date: 10/04/13   **Required Date:** 12/15/14

Start Qty: 30.00   **Required Qty:** 30.00

Comments: IPP Rev:B 00.12.15 Added: Issue P/O EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6004-115P *D6004-115P* Crosstube Material		Purchased	No			110	Each	0.0000	1 **	~~30~~ 34 ~~3ev 2015-03-24.~~			

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ____________	DISPOSITION	AGAINST DEPARTMENT/PROCESS			
Part No. ____________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. ____________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ________
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	____________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	____________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	____________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

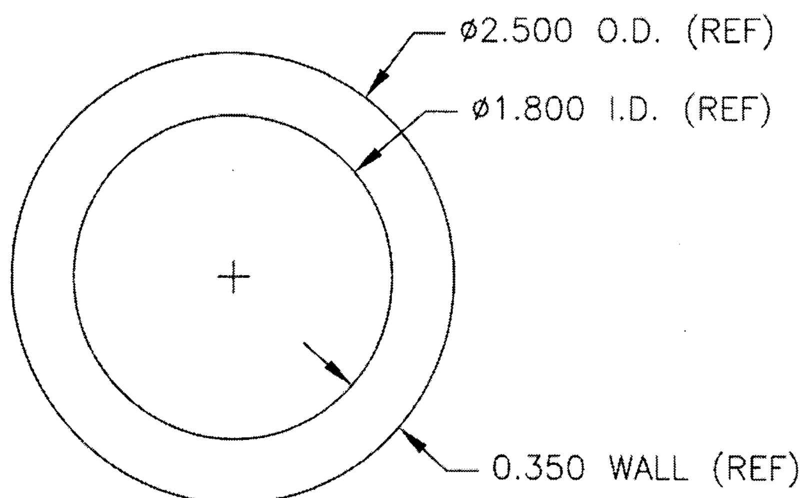




DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D6004	REV. A SHEET 1 OF 1
DATE 00.11.22		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.22	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED 00.11.24



107870 MCS
13-10-04

NOTES

1) D6004-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 115" LONG TUBE: D6004-115

2) MATERIAL: 2.500 OD x 0.350 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi

3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.006 MEAN (±0.012 INCLUDING OVALITY)
WALL: ±0.015 MEAN (±0.035 INCLUDING ECCENTRICITY)
LENGTH: XXX +0.125/-0.000
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH

4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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ALUnna TUBES

delivery note 84840

page: 2
date: 11.11.2014
customer 40980

Packing: seaworthy wooden cases
number of packages: 1
number of pieces: 30

item	quantity	unit	net kgs
1600	33,000	PC	

AWU article: 35314 / Tariff no. 76082081
Customer article: D6004-115 2.500 X 0.350 X 115 / cust. drwg.
product: Tubes / seamless extruded / EN AW-7075 / round
condition: T 6511 / AMS-QQ-A-200/11

outer diameter:	2,500	INCH Tol.	+0,012	-0,012
tol.for mean OD			+0,006	-0,006
inner diameter:	1,800	INCH		
wall thickness:	0,350	INCH Tol.	+0,035	-0,035
fixed length	115,000	INCH Tol.	+0,125	

inspection cert.acc. to EN10204/3.1 / RM 531 / Rp0,2: 455
straightness 0,01 INCH / 1 FEET / RMS outer 25
tol. on quantity +10 % -10 % / scurfed
2.500" OD 0.350" Wall, 115" lengths
Part Number D6004-115 crosstube
Surface Finish max. RMS 25
Tolerances per ASTM B210 / your drawing D6004
Tubes protected with corrosion protective oil
Tubes line marked

Packing: seaworthy wooden cases
number of packages: 1
number of pieces: 33

Terms of payment: 30 days after date of delivery
terms of delivery: DDP(Delivered,Duty,Paid)

weight: gross 1124,000 net 909,000
Packstücke 2

customer address:
DART AEROSPACE LTD.
1270 Aberdeen Street
HAWKESBURY ON K6A 1K7
Kanada

ALUMINIUMWERK UNNA AG

- Allgemeine Lieferungs- und Zahlungsbedingungen -

(nur kaufmännischer Verkehr)

1. Vertragsabschluß und Vertragsinhalt

[illegible]

2. Preise

[illegible]

3. Fracht und Verpackung

[illegible]

4. Abnahme

[illegible]

5. Gefahrtragung

[illegible]

6. Haftung für Mängel

[illegible]

7. Schutzrechte Dritter

[illegible]

8. Liefer-, Abnahme- und Abruffristen

[illegible]

9. Kreditgrundlage

[illegible]

10. Eigentumsvorbehalt

[illegible]

11. Zahlungsbedingungen

[illegible]

12. Schlußbestimmungen

[illegible]

ALUnna TUBES

delivery note 84840

page: 2
date: 11.11.2014
customer 40980

Packing: seaworthy wooden cases
number of packages: 1
number of pieces: 30

item	quantity	unit	net kgs
1600	33,000	PC	

AWU article: 35314 / Tariff no. 76082081
Customer article: D6004-115 2.500 X 0.350 X 115 / cust. drwg.
product: Tubes / seamless extruded / EN AW-7075 / round
condition: T 6511 / AMS-QQ-A-200/11

outer diameter:	2,500	INCH Tol.	+0,012	-0,012
tol.for mean OD			+0,006	-0,006
inner diameter:	1,800	INCH		
wall thickness:	0,350	INCH Tol.	+0,035	-0,035
fixed length	115,000	INCH Tol.	+0,125	

inspection cert.acc. to EN10204/3.1 / RM 531 / Rp0,2: 455
straightness 0,01 INCH / 1 FEET / RMS outer 25
tol. on quantity +10 % -10 % / scurfed
2.500" OD 0.350" Wall, 115" lengths
Part Number D6004-115 crosstube
Surface Finish max. RMS 25
Tolerances per ASTM B210 / your drawing D6004
Tubes protected with corrosion protective oil
Tubes line marked

Packing: seaworthy wooden cases
number of packages: 1
number of pieces: 33

Terms of payment: 30 days after date of delivery
terms of delivery: DDP(Delivered,Duty,Paid)

weight: gross 1124,000 net 909,000
Packstücke 2

customer address:
DART AEROSPACE LTD.
1270 Aberdeen Street
HAWKESBURY ON K6A 1K7
Kanada

ALUMINIUMWERK UNNA AG

- Allgemeine Lieferungs- und Zahlungsbedingungen -
(nur kaufmännischer Verkehr)

1. Vertragsabschluß und Vertragsinhalt

[illegible]

2. Preise

[illegible]

3. Fracht und Verpackung

[illegible]

4. Abnahme

[illegible]

5. Gefahrtragung

[illegible]

6. Haftung für Mängel

[illegible]

7. Schutzrechte Dritter

[illegible]

8. Liefer-, Abnahme- und Abruffristen

[illegible]

9. Kreditgrundlage

[illegible]

10. Eigentumsvorbehalt

[illegible]

11. Zahlungsbedingungen

[illegible]

12. Schlußbestimmungen

[illegible]



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

*****OUTSTANDING PO REPRINT*****

Purchase Order ID PO21670

Purchase Order Date 10/10/2013

PO Print Date 9/10/2014

Order From : VU-ALU001

ALUMINIUMWERK UNNA AG
630 3033 SOUTH PARKER RD
AURORA, CO 80014
USA

Ship To : DART AEROSPACE LTD
1270
ABERD
EEN
HAWKE
SBURY,
ON
K6A
1K7
CANAD
A

Contact Name		**Buyer**	Chantal Lavoie
Vendor Phone	303 755 5672	**Customer POID**	
Vendor Fax	303 755 5936	**Customer Tax #**	10127-2607
Ship To Contact		**Terms**	Wire
Ship To Phone		**Currency**	USD
		FOB	EXW – (Ex Works)
Ship Method	Contract Shipping		
Ship Acct			

Line Nbr	Item ID / Vendor Part Number / Line Comments / Delivery Comments	Description/ Mfg ID	Req Date/ Taxable	Req Qty	Extended Price
[illegible]	D6005-128P	Crosstube Material	12/15/2014 Yes 12/15/2014	28.00 Each	$14,644.00
	AS PER DWG D6005 REV.B B107873				
				Line Total:	$14,644.00
[illegible]	D6004-115P	Crosstube Material	12/15/2014 Yes 12/15/2014	36.00 ✓ Each 33x	$15,228.00
	AS PER DWG D6004 REV. A B107870				
			2014-12-15	**Line Total:**	$15,228.00

ALUnna TUBES

Packinglist ALUnna AG

ALUnna ref. no.	51529/1600
Customer PO.	PO. 21670
Date:	11.10.14

Boxmarking:

Dart Aerospace PO. 21670 D 6004-115
Made in Germany
Dest. Hawkesbury Ont. Canada

We hereby declare that the wooden packing material are totally free from bark and apparently free from live plant pests

Item no.	Box no.	OD (inch)	ID (inch)	Wall (inch)	Net Weight (lbs)	Tare lbs	Gross Weight	Pieces	lengths (ft)	Boxdimension Lengths (inch)	Width (inch)	height (inch)	Cast. / Heat No. Top	Pcs.	Cast. / Heat No. Middle	Pcs.	Cast. / Heat No. Bottom	Pcs.
1600	1	2,500	1,800	0,350	919	242	1162	33	10	151,575	22,441	22,441			2483/1402199	33	✓	
					919	**242**	**1162**	**33**				1,251 m³						

SP 14-12-15.

S:\VERSAND\USA_Packliste\51529_1600

ALUnna TUBES

Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005

Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: Dart Aerospace Ltd.
Client:
1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: 1439/14
Cert No.: / No. du certificat:

Bestellnummer: PO21670
Order No. / No. de commande

Auftrag: 51529/1600
Our Reference/Notre Reference:

Produkt: Rohre nahtlos gepresst
Product / Produit: *Tubes seamless extruded*

Spezifikation: AMS - QQ - A - 200/11; -
Specification:

Werkstoff: 7075
Alloy/Alliage:

Zustand: T 6511
Temper/État

Abmessung 2,500 INCH x 1,800 INCH x 0,350 INCH x 115,000 INCH
Size / Dimension D6004-115

Kennzeichnung ALUnna - Cert No. 1439/14 - 7075-T6511 - Cast No. 2483 - AMS - QQ-A- 200/11 - 2.500" OD X 0.350" Wall - Heat Lot No. 1402199 - ALUnna Order Conf. No. 51529/1600-1 PO. 21670
Marking/Marquage:

Lieferung pcs. 33 lbs 919
Delivered Material / Matérial délivre:

Country of Manufacture: Germany
Products are in accordance with applicable RoHS

1. Chemische Analyse *Chemical Analysis / analyse chimique*

Charge/ Cast No.		Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Na
	min.			1,2		2,1	0,18	5,1						
	max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
2483/14		0,125	0,213	1,645	0,083	2,434	0,200	5,630	0,053	0,003	0,0182	0,0001	0,0017	0,0001

Hydrogen content: 0,10 **ccm/100 g Al** Elements without indication < 0,01 % **country of melt manufacturer: Germany**

2. Mechanische Eigenschaften *Mechanical Properties / Valeurs Mécaniques*

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
	81,0	73,0	7,0			
1	85,695	79,025	9,0			1402199
2	84,100	76,995	8,0			

2014-12-15

RMS: outside 25 - max. 11,1 µ"

Ergebnis der Prüfungen: Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results: We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats: Nous confirmons que la livraison a été controlée et correspond avec les conventions faites à la réception de la commande

mergardtri

10.11.2014



Certified acc. DIN EN ISO 9001:2008 and DIN EN 9100:2009
valid until 2016-11-10
Cert.- Reg. No.: 001959 QM08; 001959 ASH 09-1



ALUnna

Abnahmebeauftragter

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany